Alarm DB Logger Object for Wonderware Application Server

User Guide
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PR 00186

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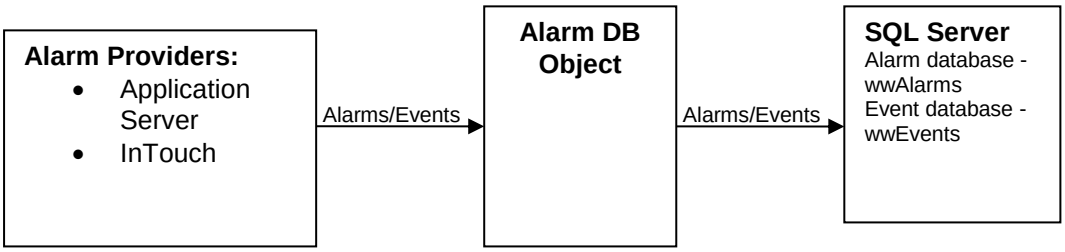
Alarm DB Logger Object for Wonderware Application Server

Introduction

The **Alarm DB Logger Object** (Alarm DB Logger) is a component of Wonderware Finland **Alarm Extension Pack** and provides functionality to store alarms into SQL database for alarms coming from Wonderware Application Server (WAS) and/or other Alarm Providers compatible with Wonderware Alarm System:



Installing the Alarm DB Logger Object

Hardware requirements

The Alarm DB Logger object has the same hardware requirements as Wonderware Application Server. It is strongly recommended to have computer with 2 gigahertz (GHz) or faster processor, 32/64-bit. A multi-core processor is also strongly recommended. The Intel Itanium 2 processor is not supported.

Software requirements

The Wonderware Application Server 3.1 SP1 or later should be installed prior to GSM-Control Object installation.

Note: if this is our first Alarm DB Logger installation is

Files

- **AlarmDBLogger.aaPKG** – contains the Alarm DB Logger object and preconfigured AppEngine and Area for Alarm DB Logger

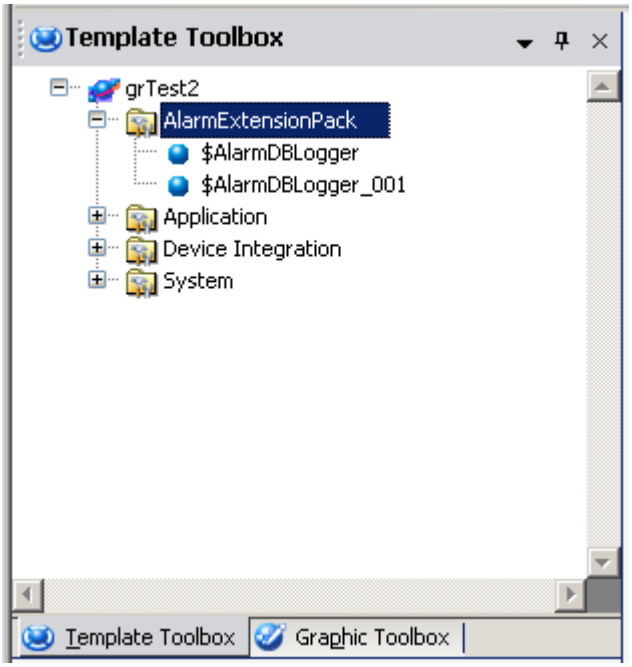
- **P186m10.pdf** – User Manual (this document)

Installation

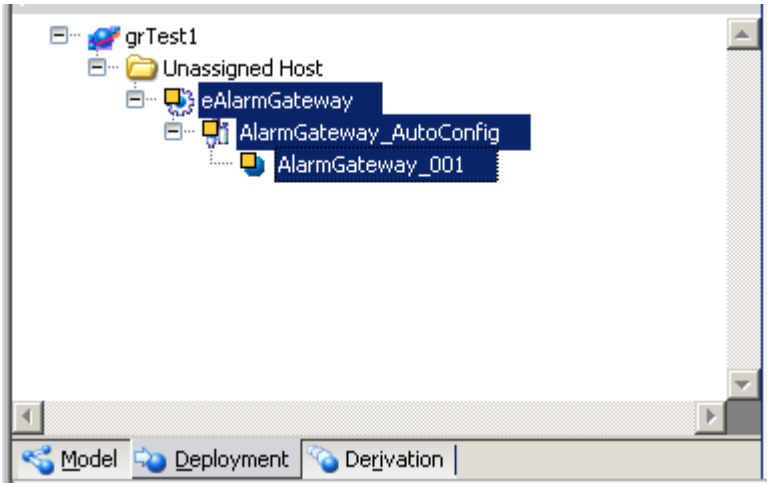
1) Copy Alarm Gateway object files to some folder, e.g. to C:/Install.

2. Start the ArchestrA IDE and import the **AlarmDBLogger.aaPKG** file to a new/existing galaxy (in the further explanation we will assume that a new galaxy **grTest2** is used).
If you are using existing galaxy and there are already deployed older Alarm Gateway object version please, following upgrade instruction from section **Object upgrade procedure.**

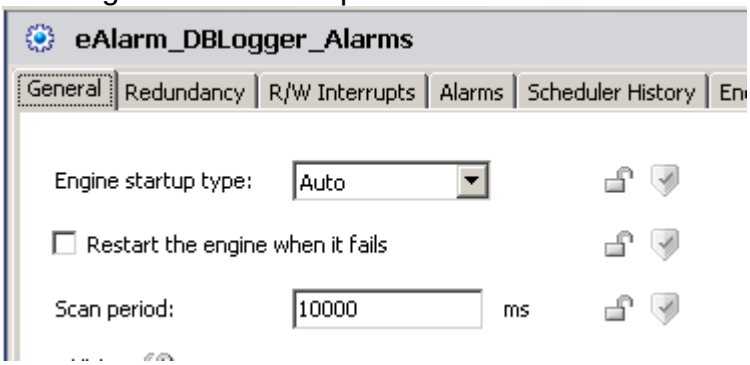
3) After importing, 2 new templates (**$AlarmDBLogger** and **$AlarmDBLogger_001**) are added to Template Toolbox:



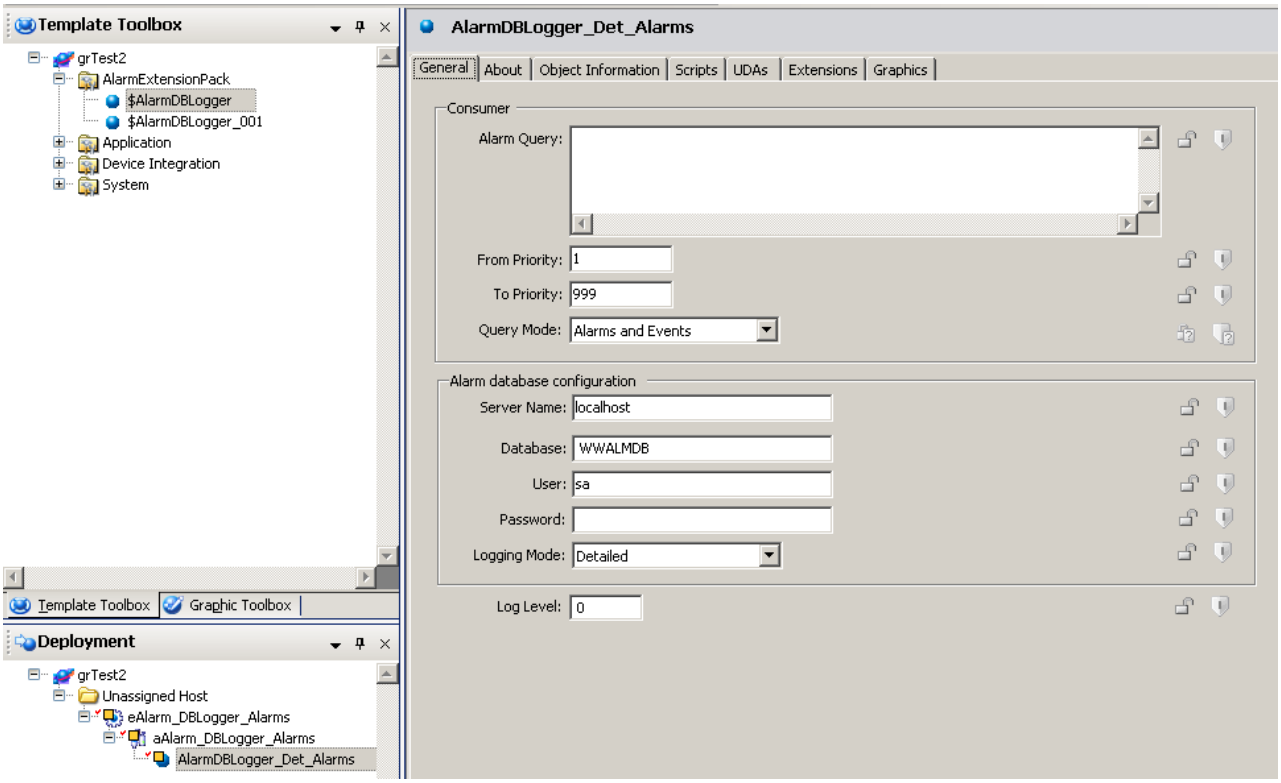
4) 3 new instances (**eAlarm_DBLogger_Alarms, aAlarm_DBLogger_Alarms and aAlarm_DBLogger_Alarms**) are created



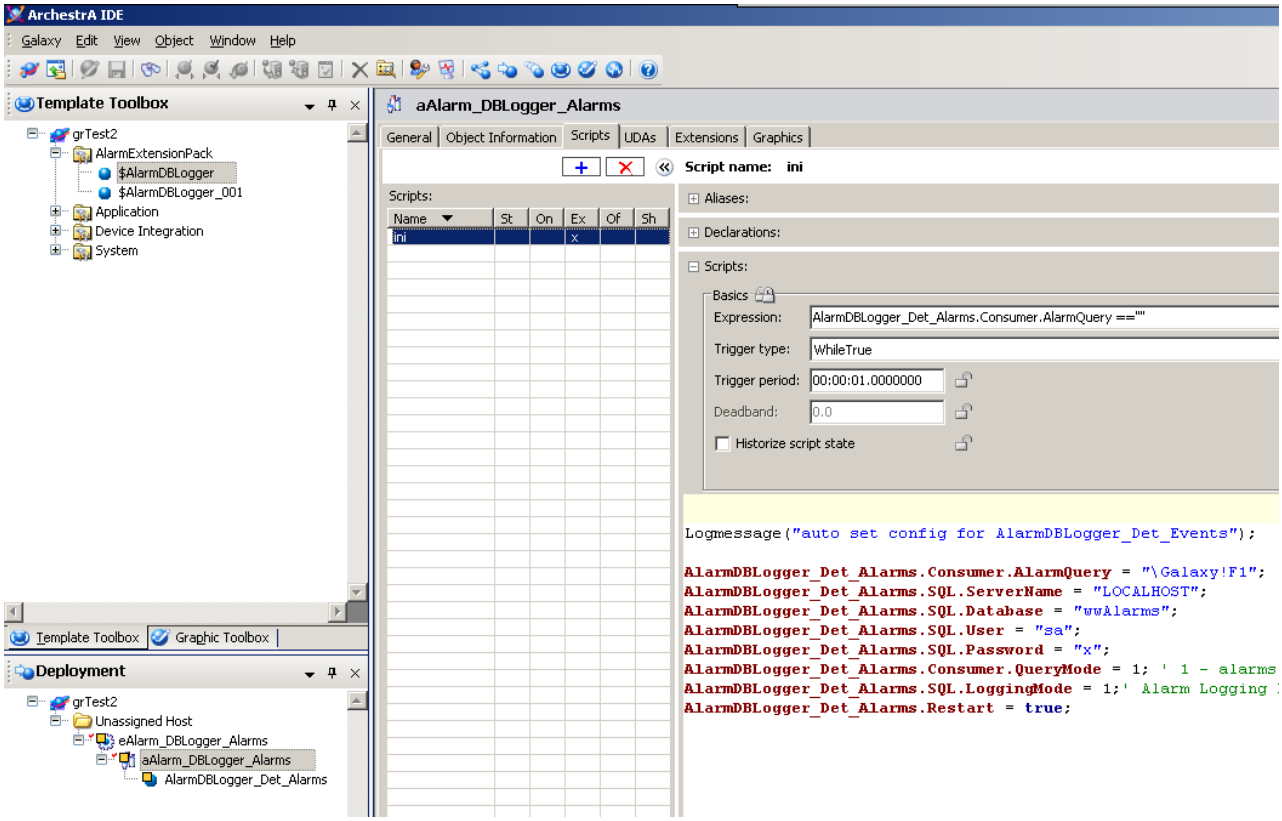
eAlarmGateway pre-configured AppEngine for Alarm Gateway is configured with Scan period 10000 ms:



AlarmDBLogger_Det_Alarms - Alarm DB Logger object instance.



aAlarm_DBLogger_Alarms - pre-configured Area for Alarm DB Logger – contains sample automatic script sample for Alarm DB Logger object.



Licensing requirements

Alarm Gateway object support two types of licenses:

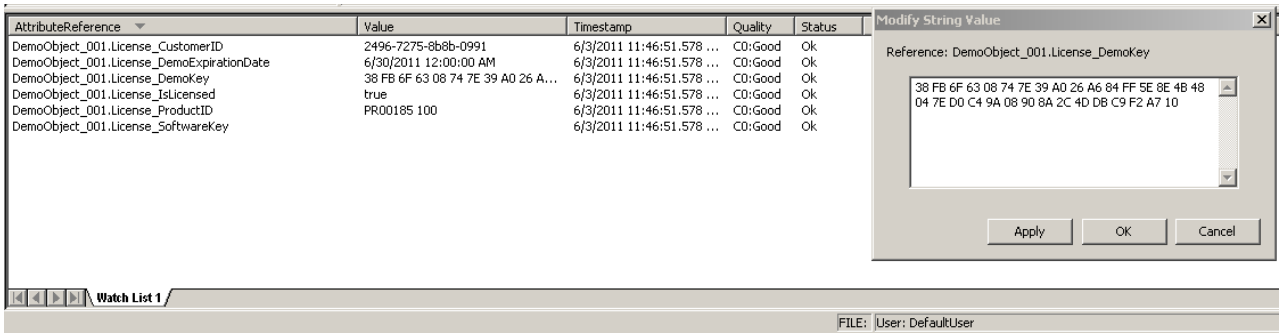
- The **demo license** is for free and provides an unlimited functionality, but it is valid only for a limited time period.
- The **software key** enables the Alarm Gateway Object unlimited full time running without any restrictions.

Demo License installation

The demo license is for free and provides an unlimited functionality, but it is valid only for a limited time period. After demo license expiration, the Alarm Gateway will stop to provide the alarms. The demo license can be obtained by sending inquiry to info@wonderware.fi.

To activate the received demo License key, you need to set it to object attribute **License_DemoKey**:

If demo license is valid (correct key is installed) attribute **License_IsLicensed** is true and in attribute **License_DemoExpirationDate** is displayed expiration date after that product stops working.



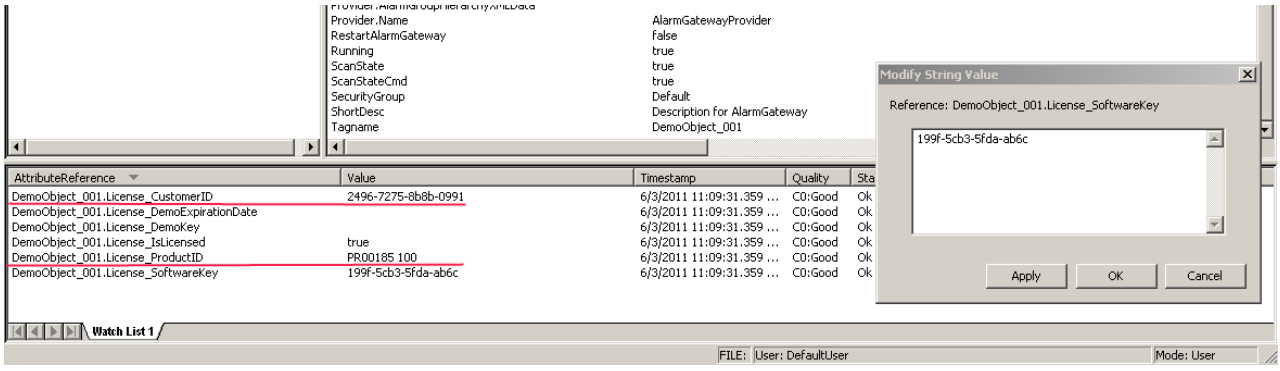
Software key installation

The **software key** enables the Alarm Gateway Object unlimited full time running without any restrictions.

To get and enable the **software key**:

- get “Product ID” from object attribute **License_ProductID** (e.g. PR00185 100);
- get “Customer ID” from object attribute **License_CustomerID**;
- copy/paste it to e-mail (or text file or similar) and provide this “Customer ID” string when ordering the Alarm Gateway Object;
- when product is purchased, copy the received “Software Key” to object attribute **License_SoftwareKey**:

If license ket is valid (correct key is installed) attribute **License_IsLicensed** is set to true and product is ready for use.



Licensing run-time attributes:

Attribute	Description	Run-Time Access
License_CustomerID	Unique generated customer ID	Read-Only

License_DemoExpirationDate	Demo license expiration date	Read-Only
License_DemoKey	Demo license key	User
License_IsLicensed	If True then product is licensed	Read-Only
License_ProductID	Product ID	Read-Only
License_SoftwareKey	Product software key	User

Configuration

For general information about objects (including relationships, deployment and alarm distribution) - see the Wonderware Integrated Development Environment (IDE) documentation.

For information on configuration options for object information, scripts, user-defined attributes (UDAs), or attribute extensions, click **Extensions Help** in the Help file header.

All object attributes are grouped into following groups by prefix:

SQL. - defines attributes for Alarm SQL database general configuration and status**.**
Consumer_ - defines attributes for Alarm Consumer configuration.
Licence_ - defines attributes for licensing – see “Licensing” section for more information

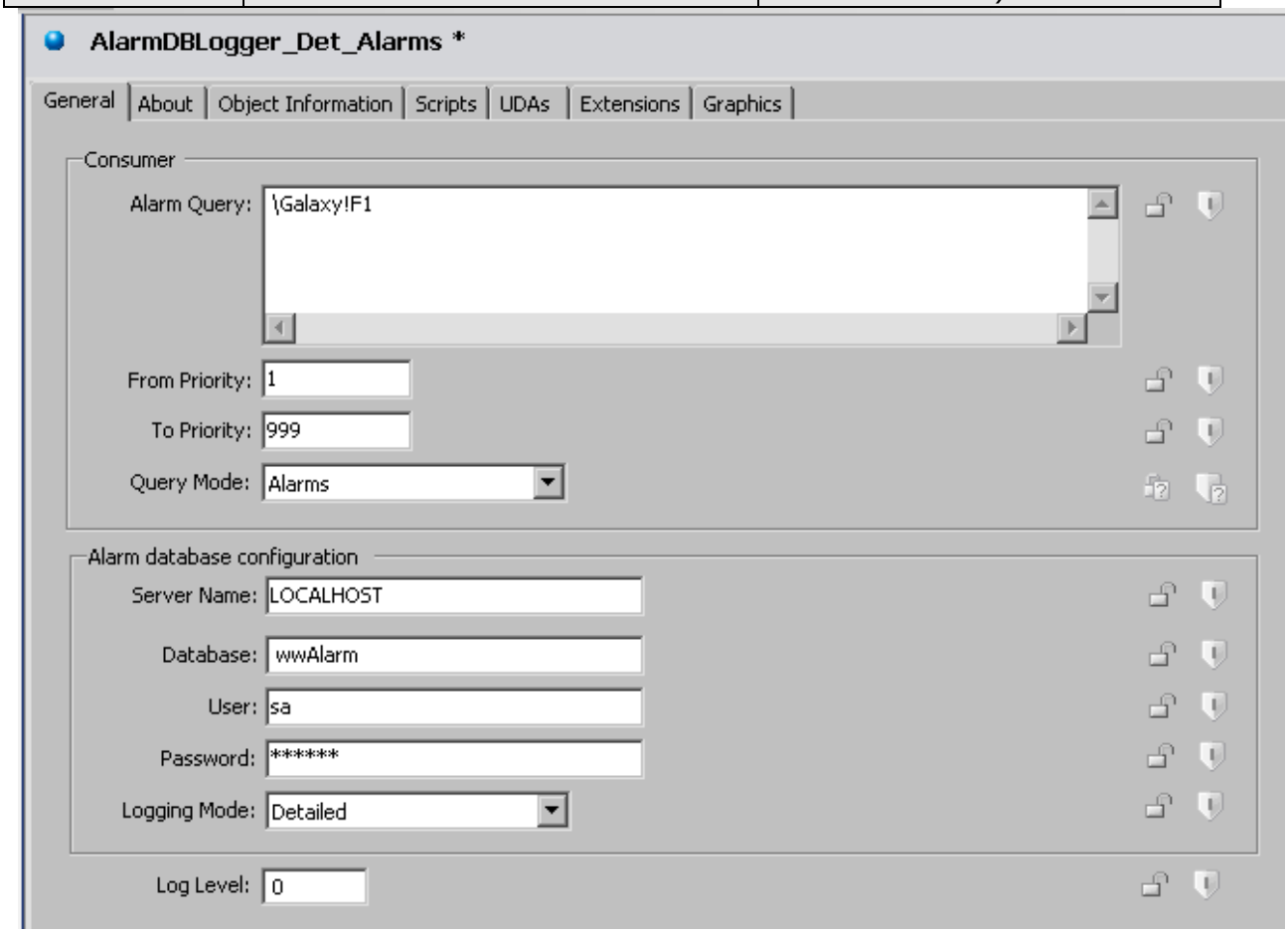
General Configuration

The following section describes the Object Editor options for configuration and the associated attributes.

Use the **General** tab to configure and tune the behavior of the Alarm Gateway Object:

Editor Option	Associated Attribute	Description
Alarm Query	Consumer.AlarmQuery	Consumer Alarm Query
From Priority	Consumer.FromPriority	Enter the starting value of the alarm priority range
To Priority	Consumer.ToPriority	Enter the ending value of the alarm priority range
Query Mode	Consumer.QueryType	Alarm query type.
Server Name	SQL.ServerName	SQL hostname e.g. GRPC, LOCALHOST.
Database	SQL.Database	Wonderware Alarm database name – that is created with Alarm DB Logger Manager for Alarm DB Logger use. e.g. WWALMDB, wwAlarm,wwEvent
User	SQL.User	SQL user (for SQL Server Authentication)

Password	SQL.Password	SQL user password (for SQL Server Authentication)
Logging Mode	SQL.LoggingMode	Alarm Logging mode (Detailed or Consolidated)



Run-Time Object Attributes

The following table describes the run-time only attributes for the Alarm Gateway Object.

Note: Configurable run-time attributes are described in the configuration sections. For more information, see **Configuration** section above.

Attribute	Description	Run-Time Access
Started	If true Alarm DB Logger is Started and running.	Read-Only
SQL.Connected	Alarm DB Logger is connected to alarm database successfully.	Read-Only
Restart	If set to true Alarm DB Logger restarts alarm consumer and reconnects to alarms database.	User
DebugLogging		User
Consumer.Status	Current status of Alarm Gateway	Read-Only
LogLevel		User
DebugLogging	If true seta LogLevel to 4 = enables full debug loging in SMC Logger for troubleshooting if false sets Loglevel = 0 -> disables debug logging.	User

Note: Due object is actively communication with SQL server it is highly recommended to run each Alarm DB Logger Object in separate Engine since Alarm Gateway uses scan interval for reading the alarms.

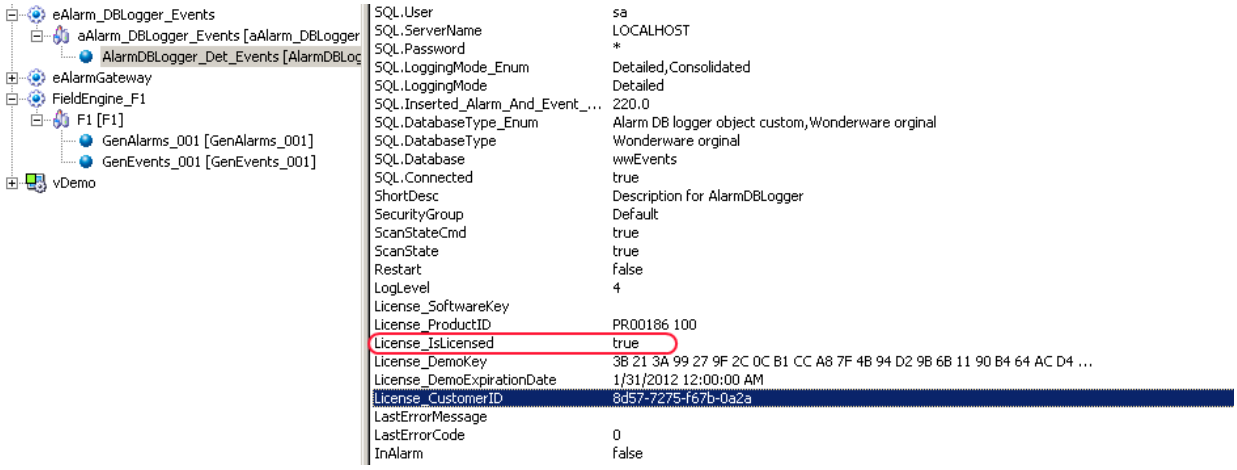
Minimum recommended Engine scan interval for Alarm Gateway is 10000 ms.

Troubleshooting

Here are common issues that may occur while using Alarm DB Logger object and solutions.

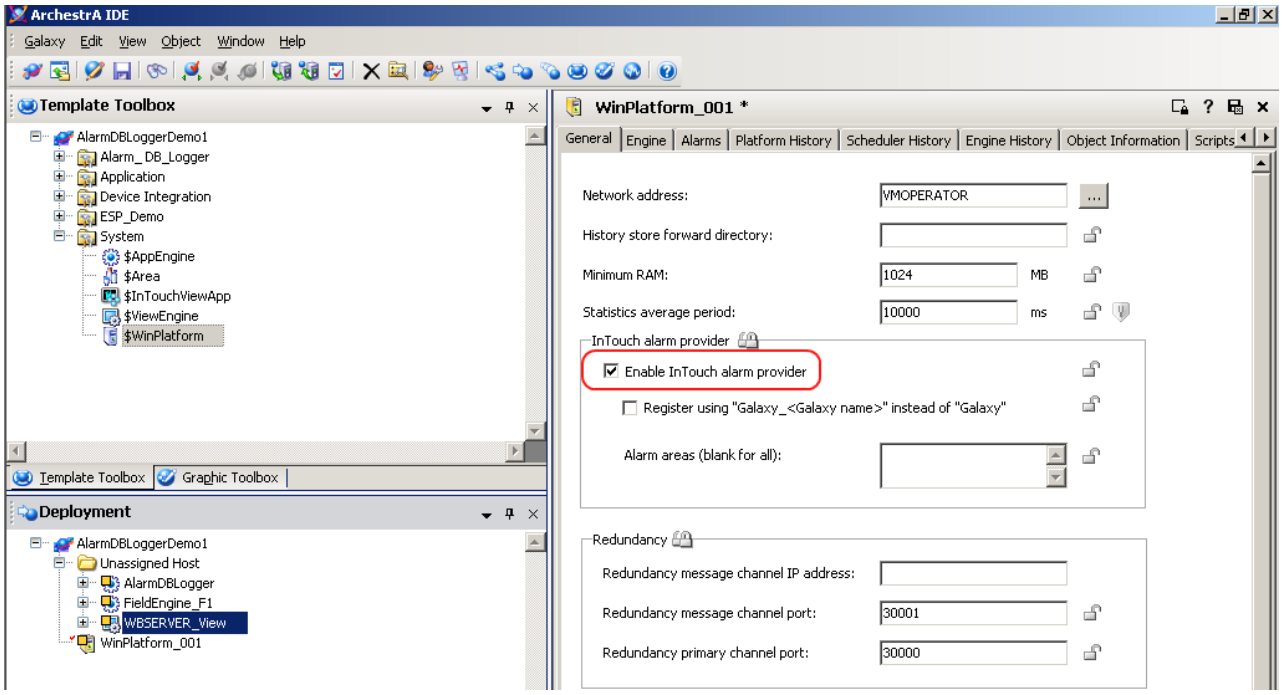
1) No alarms from Alarm Provider (WinPlatform) for Alarm DB Logger.

   a) check is valid Demo or full license installed for Alarm DB Logger is Attribute (**License_IsLicensed = true**) in Object Viewer:

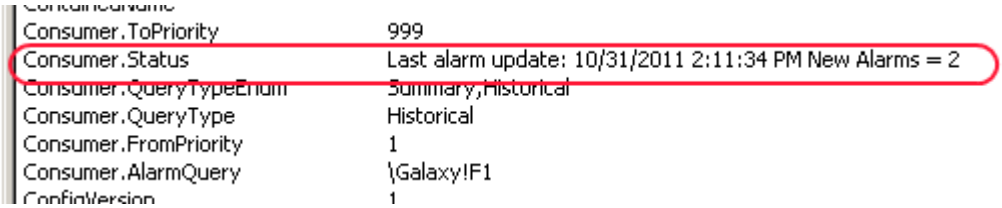


See section **Licensing requirements** for details about object licensing.

   b) check if WinPlatform object has enabled alarming - option **Enable InTouch alarm provider** is checked.

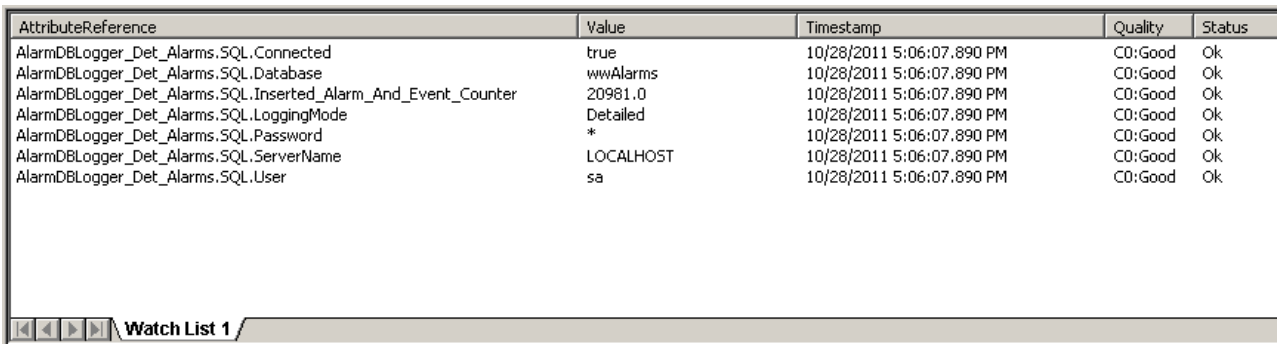


c) if alarms are checked and alarms are displayed in any Wonderware alarm display from Platform directly, check Alarm DB Logger consumer settings in Object Viewer, is correct **alarm query**, **FromPriority, ToPriority** set (must be the same as in Wonderware alarm controls):



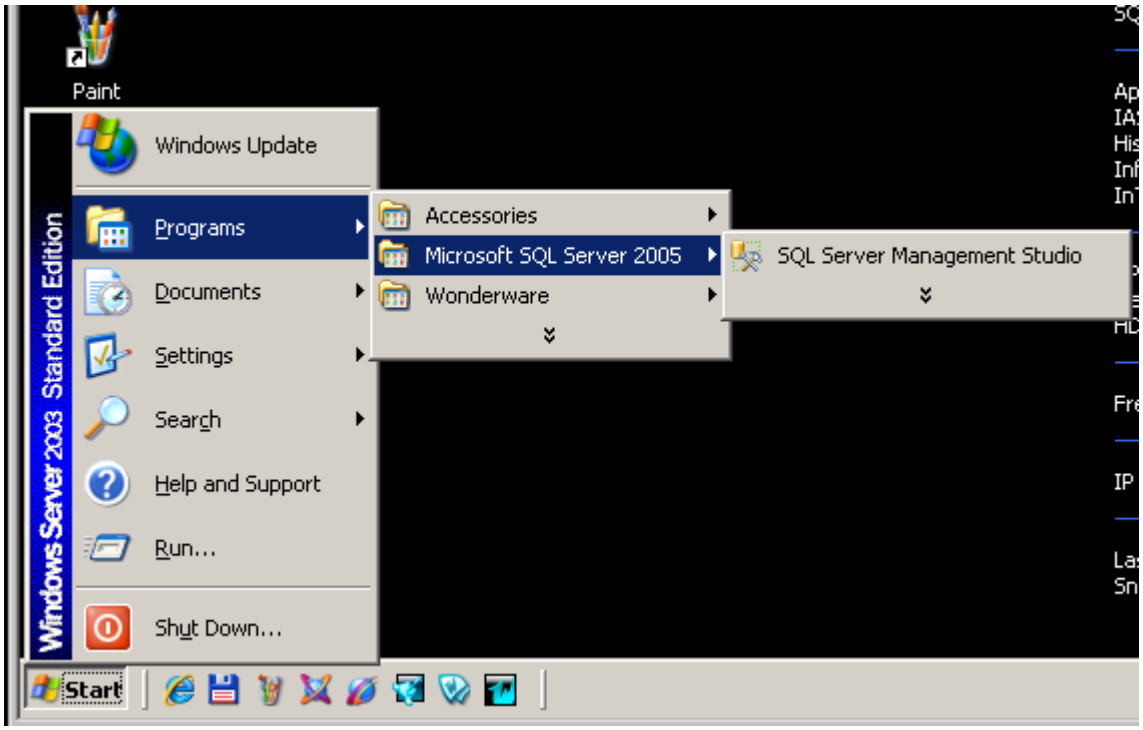
if alarms are coming to Alarm DB Logger Consumer but on alarms created in alarm database, check Alarm DB Logger alarm database configuration:

- check is correct alarm database serverName or IP is entered in attribute **SQL.ServerName.**
- check is correct alarm database name is entered in attribute **SQL.Database.**
- check is correct alarm logging mode is selected attribute **SQL.Detailed.**
- check is correct alarm database username is entered in attribute **SQL.User.**
- check is correct alarm database username is entered in attribute **SQL.Password**



AttributeReference	Value	Timestamp	Quality	Status
AlarmDBLogger_Det_Alarms.SQL.Connected	true	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.Database	wwAlarms	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.Inserted_Alarm_And_Event_Counter	20981.0	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.LoggingMode	Detailed	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.Password	*	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.ServerName	LOCALHOST	10/28/2011 5:06:07.890 PM	C0:Good	Ok
AlarmDBLogger_Det_Alarms.SQL.User	sa	10/28/2011 5:06:07.890 PM	C0:Good	Ok

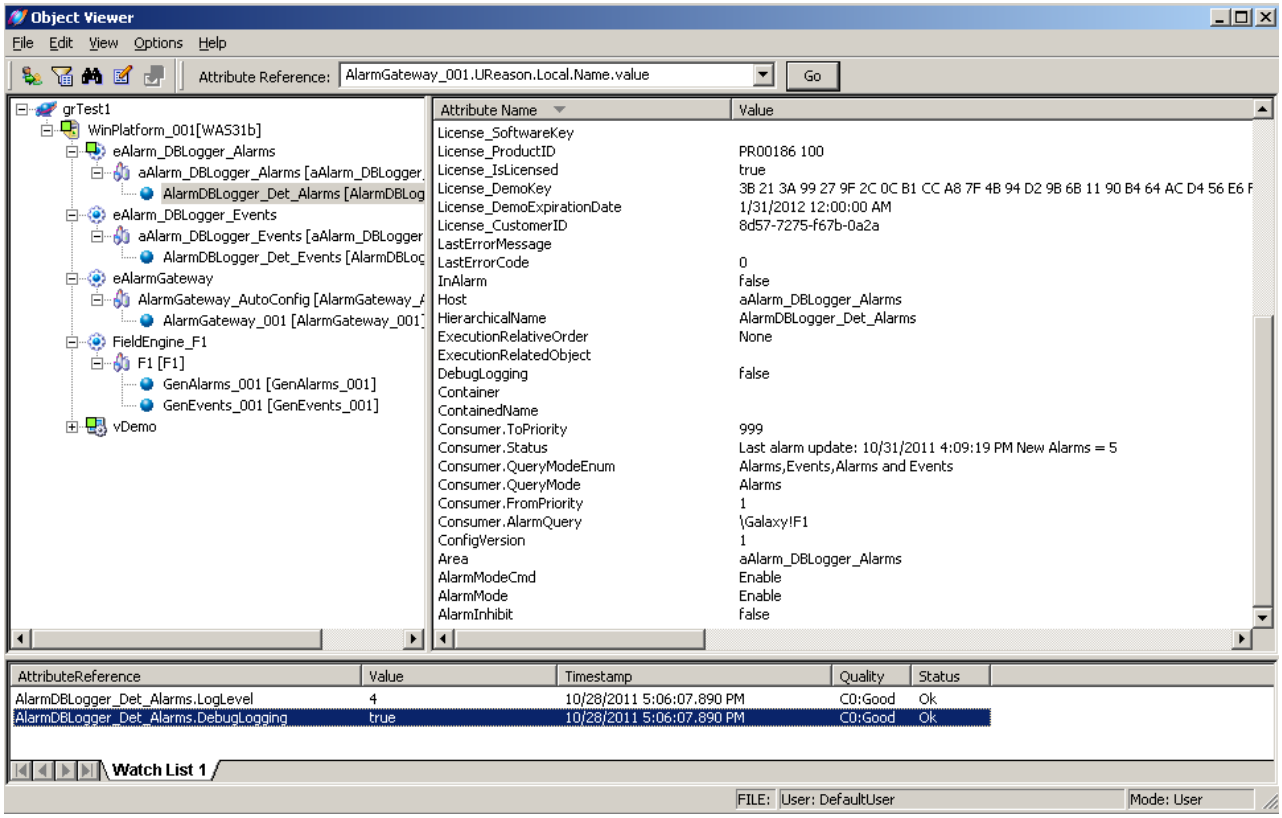
SQL Server Management Studio can be used for checking alarm database status.


Paint
Windows Update
Programs
Documents
Settings
Search
Help and Support
Run...
Shut Down...
Windows Server 2003 Standard Edition
Accessories
Microsoft SQL Server 2005
Wonderware
SQL Server Management Studio
Start

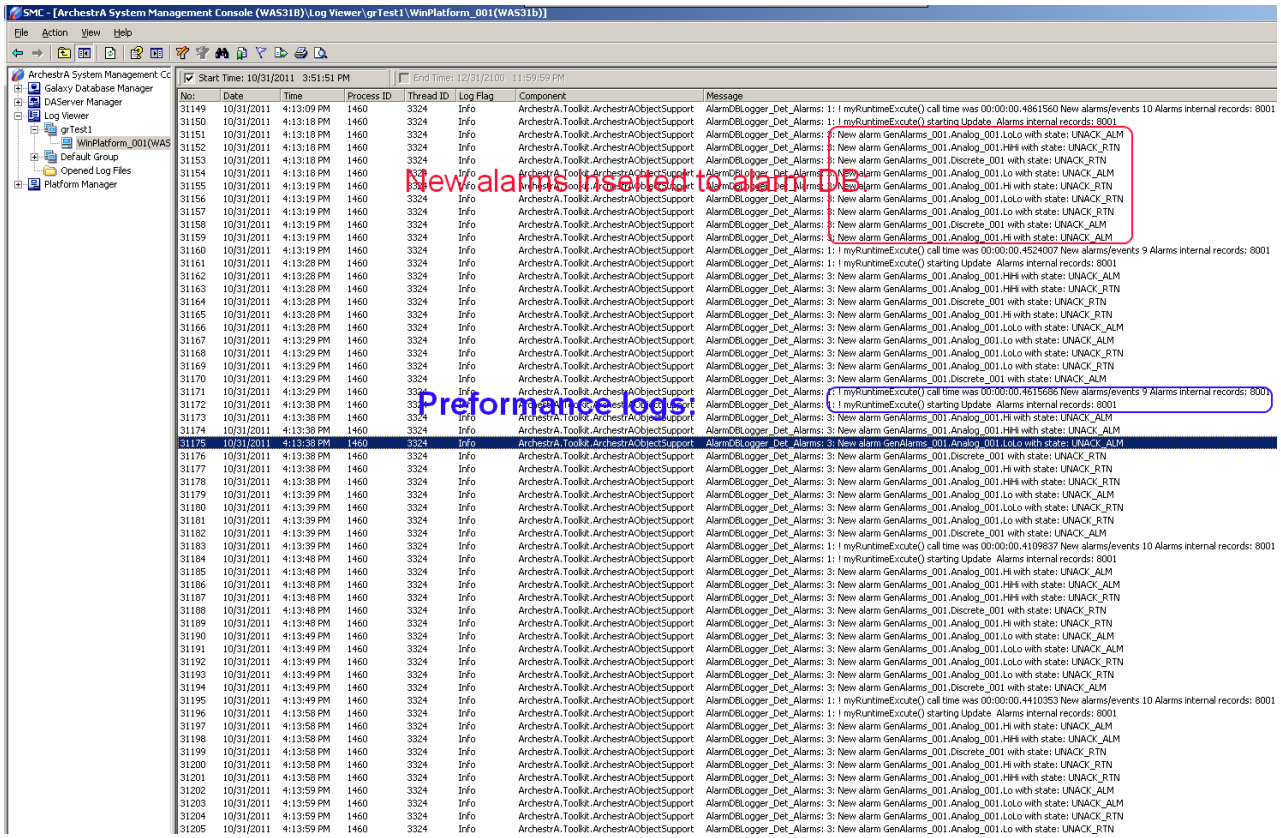
Connect to Server
Microsoft SQL Server 2005
Microsoft Windows Server System
Server type:
Database Engine
Server name:
WAS31B
Authentication:
SQL Server Authentication
Login:
sa
Password:
Remember password
Connect
Cancel
Help
Options >>

Advanced Troubleshooting

For advanced troubleshooting there are possible to enable **Debug Mode** by setting object attribute **DebugLogging** to **true** to enable full logging or change attribute **LogLevel** from 1 to 4**:**



If **debuglogging** is enabled Alarm DB Logger logs alarms created to alarm database and object alarms insert to database performance logs.


New alarms inserted to alarm DB
Preformance logs

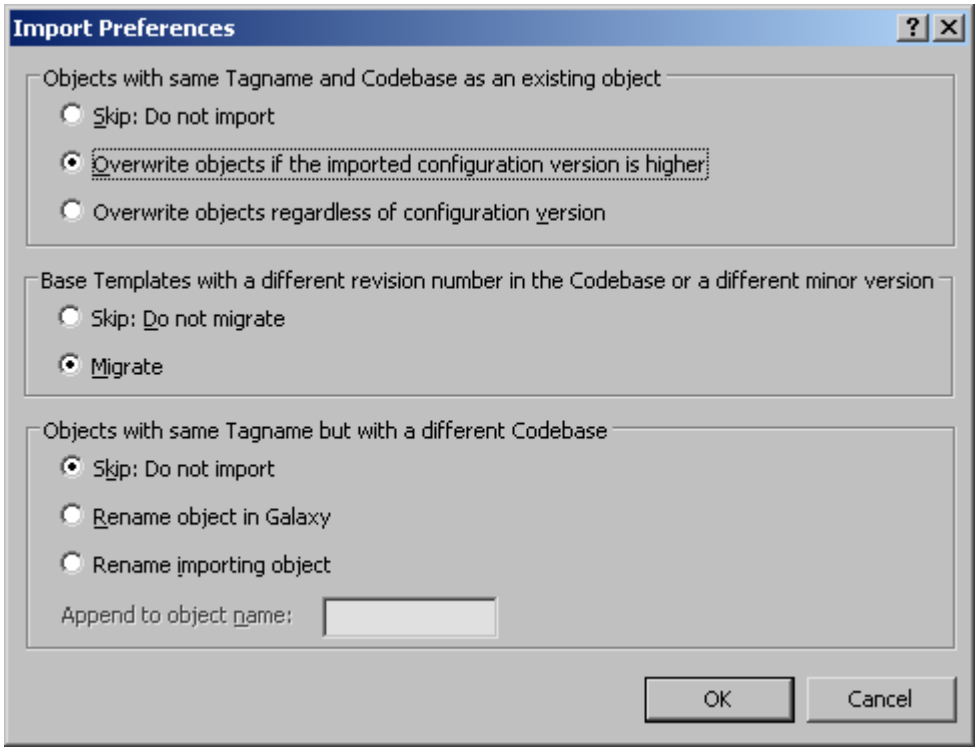
Object upgrade procedure

1) Undeploy all Application engines were Alarm Gateway object is deployed

2) Delete all Alarm Gateway object instances and templates from galaxy.

3) Close ArchestrA IDE.

4) Open ArchestrA and import new version of Alarm Gateway object.
Following “Import Preferences” are recommended for Alarm Gateway object new version installation into WAS galaxy:


Import Preferences
Objects with same Tagname and Codebase as an existing object
Skip: Do not import
Overwrite objects if the imported configuration version is higher
Overwrite objects regardless of configuration version
Base Templates with a different revision number in the Codebase or a different minor version
Skip: Do not migrate
Migrate
Objects with same Tagname but with a different Codebase
Skip: Do not import
Rename object in Galaxy
Rename importing object
Append to object name:
OK
Cancel

WONDERWARE FINLAND
Alarm DB Logger Object
Revision History

Oct 2011	Rev 1.0	First Release